

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT

**SOLIS TELESCOPE RELOCATION PROJECT
(PROJECT NO. P201600517)**

**Fawnskin Area, Big Bear Valley
San Bernardino County, California**

For Submittal to:

County of San Bernardino Planning Department
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Title: Historical/Archaeological Resources Survey Report: Solis Telescope Relocation Project (Project No. P201600517), Fawnskin Area, Big Bear Valley, San Bernardino County, California

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USGS Quadrangle: Fawnskin, Calif., 7.5' quadrangle (Section 18, T2N R1E, San Bernardino Baseline and Meridian)

Project Size: Approximately 1.55 acres

Keywords: San Bernardino Mountains; Phase I historical/archaeological resources survey; a portion of Assessor's Parcel No. 0304-261-15; no "historical resources" under CEQA

EXECUTIVE SUMMARY

In June and July 2017, at the request of the National Solar Observatory/Association of Universities for Research in Astronomy, CRM TECH performed a cultural resources study on approximately 1.55 acres of vacant land near the unincorporated community of Fawnskin in the Big Bear Valley area of San Bernardino County, California. The subject property of the study comprises a portion of Assessor's Parcel No. 0304-261-15, located on the east side of the Big Bear Solar Observatory access road and the south side of North Shore Lane, in the northwest quarter of Section 18, T2N R1E, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the proposed Solis Telescope Relocation Project (Project No. P201600517), which entails the construction of a Solis telescope, a steel tube-framed building to house the telescope, a masonry block wall to support the telescope, and corresponding at-grade paved areas. The County of San Bernardino, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the County with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or near the project area.

In order to identify such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, and carried out an intensive-level field survey. Through the various avenues of research, this study did not encounter any "historical resources" within the project area. Therefore, CRM TECH recommends to the County of San Bernardino a finding of *No Impact* regarding cultural resources. No further cultural resources investigation is recommended for the project unless construction plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are encountered during any earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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INTRODUCTION

In June and July 2017, at the request of the National Solar Observatory/Association of Universities for Research in Astronomy, CRM TECH performed a cultural resources study on approximately 1.55 acres of vacant land near the unincorporated community of Fawnskin in the Big Bear Valley area of San Bernardino County, California (Fig. 1). The subject property of the study comprises a portion of Assessor's Parcel No. 0304-261-15, located on the east side of the Big Bear Solar Observatory access road and the south side of North Shore Lane, in the northwest quarter of Section 18, T2N R1E, San Bernardino Baseline and Meridian (Figs. 2, 3).

The study is part of the environmental review process for the proposed Solis Telescope Relocation Project (Project No. P201600517), which entails the construction of a Solis telescope, a steel tube-framed building to house the telescope, a masonry block wall to support the telescope, and corresponding at-grade paved areas. The County of San Bernardino, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of the study is to provide the County with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or near the project area.

In order to identify such resources, CRM TECH conducted a historical/archaeological resources records search, pursued historical background research, and carried out an intensive-level field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

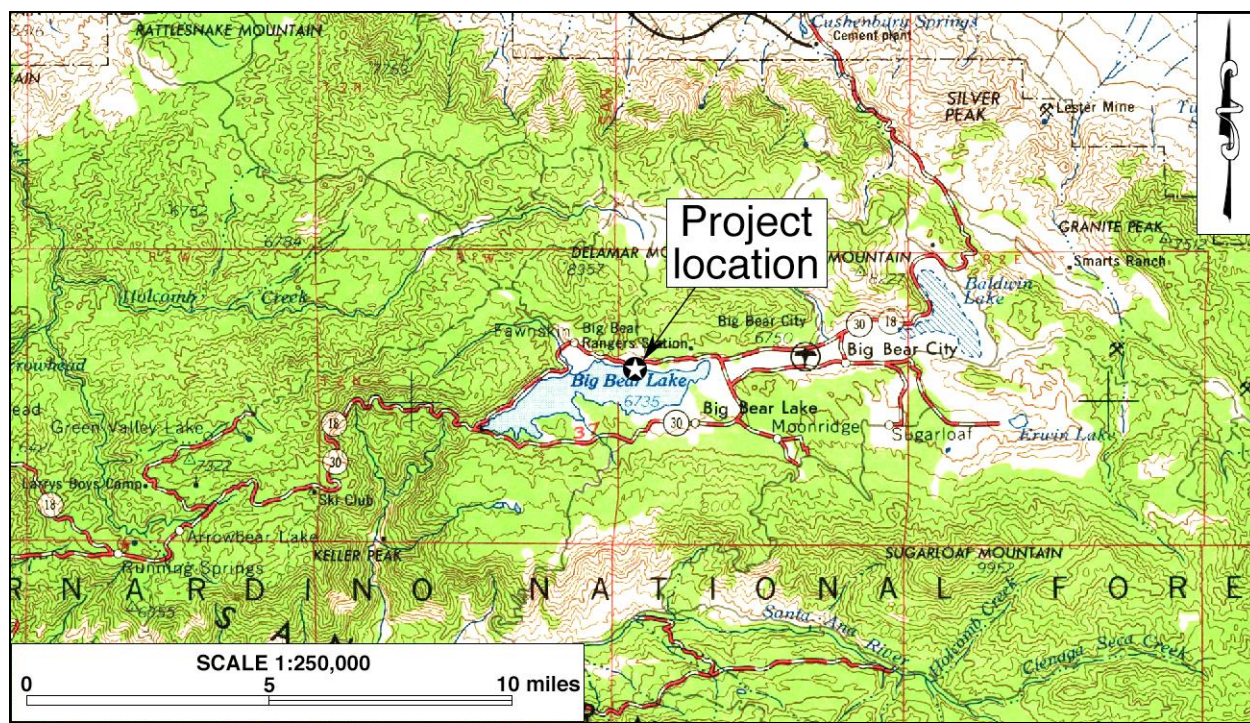


Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 1:250,000 quadrangle [USGS 1969])



Figure 2. Project area. (Based on USGS Big Bear Lake and Fawnskin, Calif., 1:24,000 quadrangles [USGS 1996a; 1996b])



Figure 3. Recent aerial photograph of the project area. (Based on Google Earth imagery)

SETTING

CURRENT NATURAL SETTING

The project area is situated in the San Bernardino Mountains, surrounded by the San Bernardino National Forest. More specifically, it lies on the north shore of Big Bear Lake, a man-made reservoir occupying the center of the Big Bear Valley, near the small community of Fawnskin. The elevation at the project location is approximately 6,750 feet above mean sea level. Dictated by this geographic setting, the surrounding area is characterized by an alpine climate and environment, in sharp contrast to most of southern California. Average temperatures vary from approximately 35 degrees in January to approximately 65 degrees in July, and average annual precipitation reaches more than 20 inches of rainfall and 70 inches of snowfall in winter.

The project area consists of the eastern portion of Assessor's Parcel No. 0304-261-15, a 1.83-acre parcel of undeveloped mountain land surrounded mostly by land of similar character in the immediate vicinity. Much of the project area, like the adjacent properties, supports a Jeffrey pine forest community, while the vegetation observed along the southern project boundary consists mainly of low-lying brushes and weeds. The terrain in the project area is relatively level and meadow-like, with a gradual decline in elevation to Big Bear Lake on the south. The ground surface is covered by low-lying alpine grasses as well as fallen pine needles and other decomposing plant material (Fig. 4).



Figure 4. Overview of the current natural setting of the project area. (Photograph taken on June 30, 2017; view to the northwest)

Soils in the area are commonly somewhat acidic and include a range of red clay, granite, and sand on hard pan. The surface sediments are underlain by recent alluvial fan and streambed deposits overlying Cenozoic sedimentary deposits with a basement complex of Proterozoic, Mesozoic and plutonic rocks of the San Bernardino Mountains (CQuest Consultants, Inc. 2017). Geotechnical borings at the proposed location of the telescope reveal that sandy silt is present to the depth of eight feet, with sandy clay below that strata (*ibid.*).

CULTURAL SETTING

Ethnohistorical Context

The Big Bear Valley area has long been a part of the homeland of the Serrano Indians, whose traditional territory is centered in the San Bernardino Mountains, but also includes the southern rim of the Mojave Desert, extending from today's Victorville eastward to Twentynine Palms. The name "Serrano" was derived from a Spanish term meaning "mountaineer" or "highlander." The basic written sources on Serrano culture are Kroeber (1925), Strong (1929), and Bean and Smith (1978). The following ethnographic discussion of the Serrano people is based on these sources.

Prior to European contact, the Serranos were primarily gatherers and hunters, and occasional fishers, who settled mostly where flowing water emerged from the mountains. They were loosely organized into exogamous clans, which were led by hereditary heads, and the clans in turn were affiliated with one of two exogamous moieties. The exact nature of the clans, their structure, function, and number are not known, except that each clan was the largest autonomous political and landholding unit, the core of which was the patrilineage. There was no pan-tribal political union among the clans.

According to ethnographic literature, the Big Bear Valley figures prominently into the Serrano Creation story. As Kroeber (1925:619) notes:

Kukitat [younger brother of Pakrokitat, creator of Man], feeling death approach, gave instructions for his cremation; but the suspected coyote, although sent away on a pretended errand, returned in time to squeeze through badger's legs in the circle of the mourners and make away with Kukitat's heart. This happened at Hatauva (compare Luiseño Tova, where Wiyot died) in Bear Valley.

At least two Serrano clans lived near the Big Bear Valley during prehistoric and protohistoric times: the Pervetum clan, whose territory reached from the headwaters of the Santa Ana River to the vicinity of Big Bear Lake, and the Yuhavetum clan, whose territory stretched from present-day Highlands northeast to the Big Bear Valley (Strong 1929:11). These two clans often intermarried (*ibid.*:24).

Although contact with Europeans may have occurred as early as 1771 or 1772, Spanish influence on Serrano lifeways was negligible until the 1810s, when a mission *asistencia* was established on the southern edge of Serrano territory. Between then and the end of the mission era in 1834, most of the Serranos in the San Bernardino Mountains were removed to the nearby missions. At present, most Serrano descendants are found on the San Manuel and the Morongo Indian Reservations, where they participate in ceremonial and political affairs with other Native American groups on an inter-reservation basis.

Historical Context

In 1772, a small force of Spanish soldiers under the command of Pedro Fages, military *comandante* of Alta California, became the first Europeans to set foot in the San Bernardino Mountains, followed shortly afterwards by the famed explorer Francisco Garcés in 1776. During the next 70 years, however, the Spanish/Mexican colonization activities in Alta California, which concentrated predominantly in the coastal regions, left little physical impact on the San Bernardinos. Aside from occasional explorations and punitive expeditions against Indian livestock raiders, the mountainous hinterland of California remained largely beyond the attention of the missionaries, the *rancheros*, and the provincial authorities. The name “San Bernardino” was bestowed on the region at least by 1819, when the *asistencia* and an associated mission rancho were officially established under that name in the valley lying to the south.

After the U.S. annexation of Alta California in 1848, the rich resources offered by the San Bernardino Mountains brought about drastic changes, spurred by the influxes of settlers from the eastern United States. Beginning in the early 1850s, the dense forest was turned into the scene—and victim—of a booming lumber industry, which brought the first wagon roads and industrial establishments into the San Bernardino Mountains. In 1860, the discovery of gold in the Bear and Holcomb Valleys ushered in a miniature gold rush, and with it a number of mining towns with several thousand residents.

Around the same time, the lush mountain range also attracted cattlemen, shepherds, and their herds, and within the next two decades gained the reputation of being the best summer grazing land in southern California. Then in 1884-1885, an even more valuable resource in arid southern California, water, became the focus of development in the San Bernardino Mountains when the Bear Valley Land and Water Company created the Big Bear Lake reservoir to ensure the success and prosperity of the Redlands colony.

By the 1890s, excessive logging and sheep grazing in the San Bernardino Mountains had given rise to a forest conservation movement among residents of the San Bernardino Valley to protect the watershed. The movement succeeded, in 1893, in persuading the U.S. government to create the San Bernardino Forest Reserve, later renamed the San Bernardino National Forest, and over the next few decades effectively brought an end to logging and sheep grazing in the San Bernardino Mountains. In the meantime, the favorable climate, enticing scenery, and the string of manmade lakes gradually propelled the resort industry to the forefront of development in the San Bernardino Mountains, burgeoning from the first commercial resort established on the shore of Big Bear Lake in 1888. In 1915, the budding industry received a major boost from the completion of the automobile highway known as Rim of the World Drive. Since then, the San Bernardino Mountains have grown into—and remain—one of southern California’s most popular tourist attractions.

The community of Fawnskin, the largest settlement on the north shore of Big Bear Lake, was founded in 1916, at the onset of a great building boom in the Big Bear Valley. In that year, two Los Angeles businessmen, William Cline and Clinton E. Miller, purchased some 700 acres at this location with plans to develop a major resort surrounded by expensive summer homes. Initially named Grout after Grout Bay, which it overlooks, the community was soon renamed Fawnskin after

nearby Fawnskin Valley, which had been known by that name since 1891. The Fawnskin post office was established in 1918, and Cline and Miller's resort was completed the next year. By then, Fawnskin had already grown into a community of more than 100 summer homes, with a string of other resort camps lining the lakeshore to its east*.

The nearby Big Bear Solar Observatory was built in 1968-1969 by the California Institute of Technology. The location was considered optimal for a solar observatory based on the high elevation, sky clarity, and lakeside position, all of which contributed to reducing interference and increasing optical resolution. The observatory complex consists of three buildings: a domed main observatory, a much smaller dome, known as the "Ash" dome, and a rectangular building, all of them housing telescopes and other specialized equipment (BBSO n.d.).

RESEARCH METHODS

RECORDS SEARCH

On June 28-29, 2017, CRM TECH archaeologist Nina Gallardo conducted the historical/archaeological resources records search at the South Central Coastal Information Center (SCCIC), California State University, Fullerton. During the records search, Gallardo reviewed maps and records on file at the SCCIC for previously identified historical/archaeological resources in or near the project area and existing cultural resources reports pertaining to the vicinity. Previously identified historical/archaeological resources include properties designated as California Historical Landmarks, Points of Historical Interest, or San Bernardino County Historical Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

HISTORICAL RESEARCH

Historical background research for this study was conducted by CRM TECH historian Terri Jacquemain on the basis of published literature in local and regional history and historic maps and aerial photographs of the Fawnskin area. Among maps consulted for this study were the U.S. General Land Office's (GLO) land survey plat maps dated 1858-1896 and the U.S. Geological Survey's (USGS) topographic maps dated 1902-1971. These maps are collected at the Science Library of the University of California, Riverside, and the California Desert District of the U.S. Bureau of Land Management, located in Moreno Valley. The aerial photographs, taken between 1938 and 2017, are available at the NETR Online website and through the Google Earth software.

FIELD SURVEY

On June 30, 2017, CRM TECH principal investigator/archaeologist Michael Hogan carried out the intensive-level field survey of the project area. The survey was conducted on foot by walking a series of transects set generally parallel to North Shore Lane and the lakeshore and at 10-meter

* For further discussion of the history of Fawnskin and the San Bernardino Mountains, see Robinson (1989) and LaFuze (1971).



Figure 5. Cleared area with test probe. (Photograph taken on June 30, 2017)

(approximately 30-foot) intervals. In areas where the ground surface was obscured by dense vegetation or layers of detritus, additional transects were walked in different directions. During the survey, the decaying vegetative material was cleared at six locations, and test probes were dug within the cleared areas in search of buried cultural materials (Figs. 5, 6).

The locations cleared and probed were chosen based on an intuitive assessment in the field, in the same manner as the locations of typical archaeological excavation units are determined during Phase II and Phase III investigations. In each case, a circular area approximately six feet in diameter was cleared of pine needles and other plant material so that the ground surface could be seen. A single probe was then placed at the center of each area cleared, excavated generally to the depth of six inches.

Using these methods, the project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older). The survey efforts and the probes covered the entire project area but were focused more at the proposed location for the telescope and an access road leading to that location from North Shore Lane (Fig. 6). Close attention was given to any changes in the plant distribution and diversity, as these are potentially indicative of subsurface deposits. Ground visibility was relatively poor (10%) due to the thick, low-lying vegetation growth and the layer of decaying vegetation at the time of the survey, with the exception of the areas cleared of the duff.

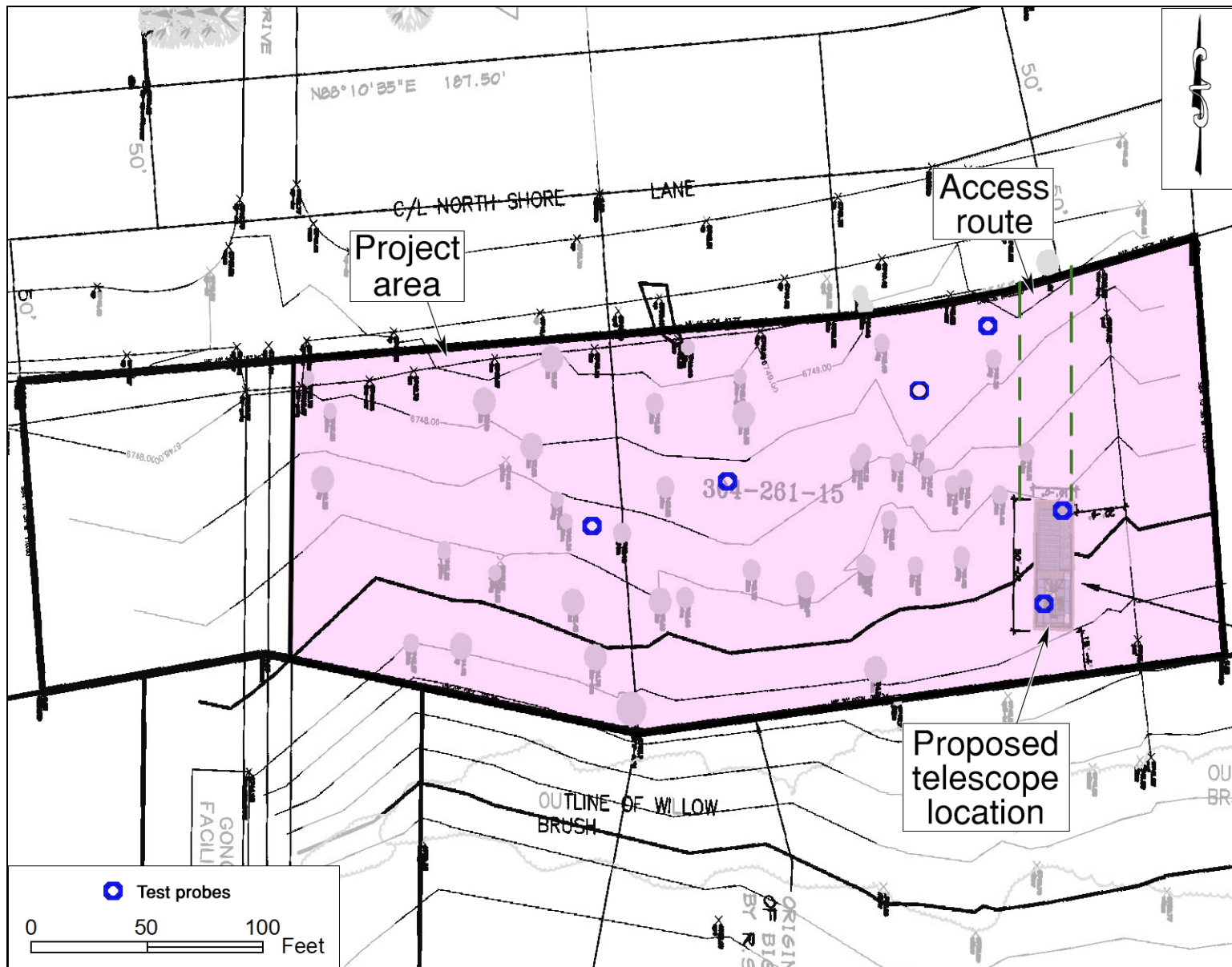


Figure 6. Locations of areas cleared and probed during the field survey.

RESULTS AND FINDINGS

RECORDS SEARCH

According to SCCIC records, the project area was previously involved in three separate cultural resources studies of various types. In 1972, it was included in a large-scale archaeological reconnaissance along the north shore of Big Bear Lake (Kaiser 1972). In 1992, the northeastern portion of the project area was covered by an intensive-level archaeological survey (Mlazovsky 1992). More recently, another intensive-level survey evidently included the entire project area in 2007 (Mirro 2007). None of these studies identified any cultural resources within the current project area. Since all of these previous studies are now at least ten years old, a systematic resurvey was deemed necessary for this study.

Outside the project boundaries but within a one-mile radius, SCCIC records show at least 15 additional studies on various tracts of land and linear features, collectively covering roughly one-third of the land surface. As a result of these and other similar studies in the vicinity, 56 historical/archaeological sites and 21 isolates—i.e., localities with fewer than three artifacts—were previously identified within the scope of the records search.

Thirty-seven of these known sites and all 21 of the isolates were of prehistoric—i.e., Native American—origin. Among the sites were 28 lithic scatters, 4 temporary camps, 5 bedrock milling stations, several hearths, and a quarry, all located in Poligue Canyon to the north of the project area. Nearest among these to the project location was 36-022379 (CA-SBR-14259/H), described as a small lithic scatter on a terrace on the west side of Poligue Canyon, roughly 0.10 mile to the northwest. The temporary camps were recorded among the hills 0.55-0.85 mile to the north of the project area. The isolates were predominantly chipped-stone and groundstone artifacts, including a purple chert projectile point.

The other 19 sites dated to the historic period, and included refuse deposits, mining features such as prospect pits and trenches, a recreational facility, and a log cabin. Seven historic-period roads were also among the sites. One of these, designated 36-024608 (CA-SBR-15649H), represented various segments of North Shore Lane, historically the alignment of Highway 38, which extends just outside the north project boundary. None of the other sites or isolates was found in the immediate vicinity of the project area.

HISTORICAL RESEARCH

Historic maps consulted for this study suggest that the project area is relatively low in sensitivity for cultural resources from the historic period. Other than the various roads and the Big Bear Lake reservoir, no man-made features were known to be present within or adjacent to the project area between the 1850s and the 1970s, as illustrated by Figures 7-11. The earliest road in the vicinity, a “Road from San Bernardino to Pine Lake Post Office,” was first noted in the early 1890s to north of the project location (Fig. 8).

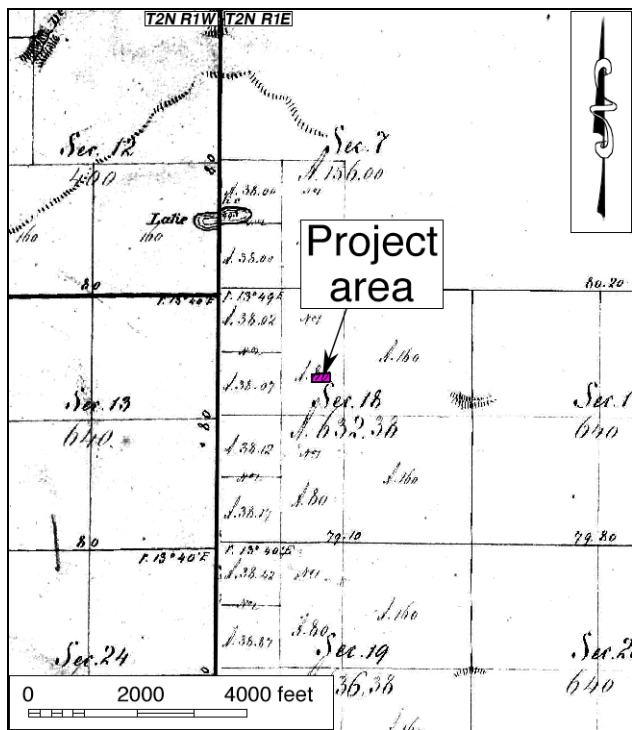


Figure 7. The project area and vicinity in 1857-1858.
(Source: GLO 1858a; 1858b)

By 1899, the course of the road was clearly shown to be adjacent to the north project boundary (Fig. 9). When the first automobile highway along the north shore of Big Bear Lake was completed in the early 20th century, it largely followed the same alignment (Figs. 10, 11). As mentioned above, the highway survives today near the project area as North Shore Drive (Site 36-024608), although no longer a part of Highway 38. Since then, the only other man-made feature to appear within or adjacent to the project area was the Big Bear Solar Observatory access road along the western project boundary (Fig. 11; NETR Online 1938-2012; Google Earth 1995-2017), which came into being with the construction of the observatory in 1968-1969 (BBSO n.d.).

FIELD SURVEY

The field survey of the project area produced completely negative results for cultural

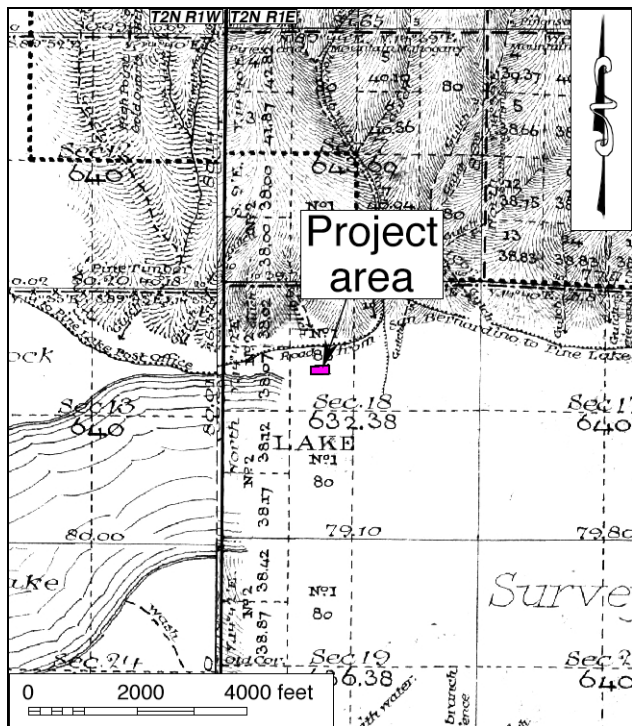


Figure 8. The project area and vicinity in 1892-1894.
(Source: GLO 1896a; 1896b)

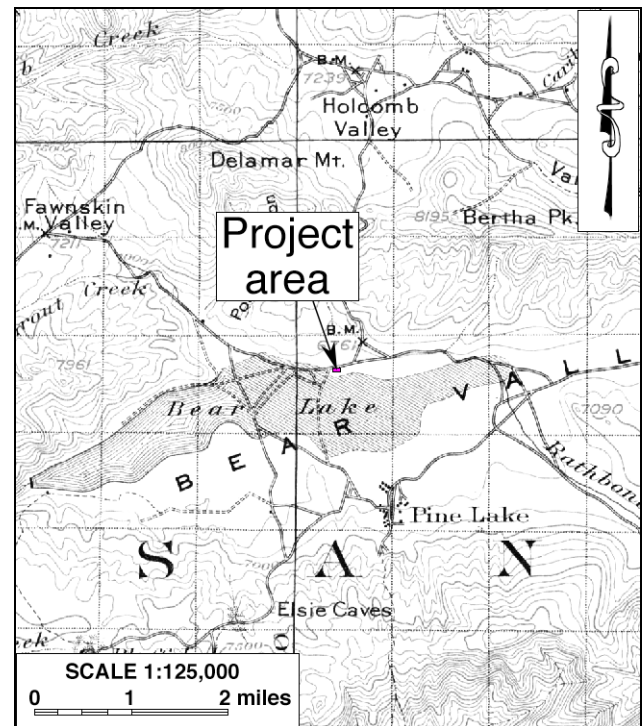


Figure 9. The project area and vicinity in 1899. (Source: USGS 1902)

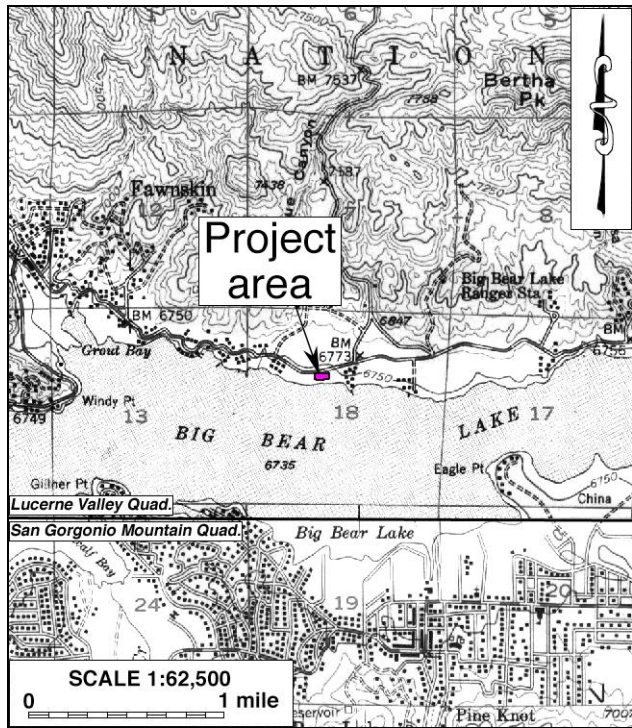


Figure 10. The project area and vicinity in 1945-1954.
(Source: USGS 1947; 1954)

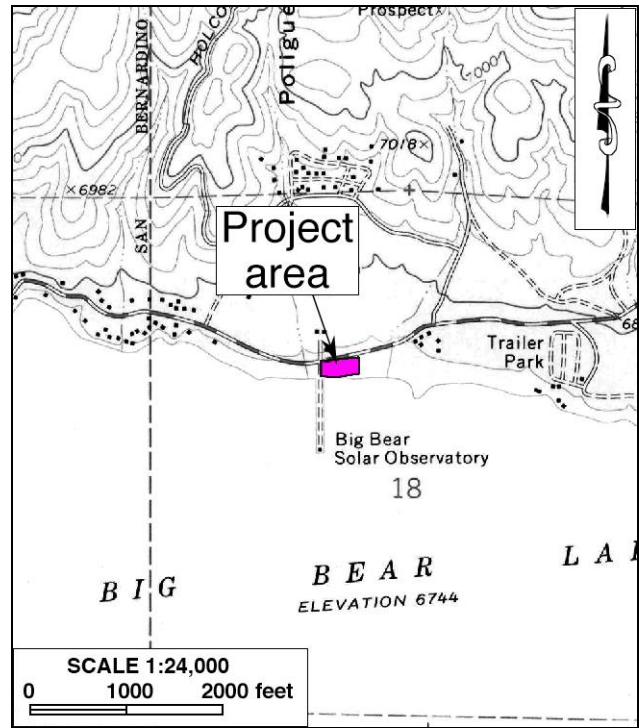


Figure 11. The project area and vicinity in 1969-1971.
(Source: USGS 1971)

resources, and no buildings, structures, objects, sites, features, or artifact deposits of prehistoric or historical origin were found either on the surface or in any of the test probes. North Shore Drive along the northern project boundary, by extension a part of Site 36-024608, is found to be a nondescript two-lane asphalt-paved road that has clearly been upgraded repeatedly and maintained regularly since the historic period. As a working component of the modern transportation infrastructure, it demonstrates no particular historical characteristics.

The soils exposed in the test probes were light tan in color. Throughout the excavations, darker soils or any other indication of changes in the chemical makeup of the soils due to human activities (e.g., midden) were never observed, nor was there an unnatural change in the vegetation on the surface that might indicate such changes. The probes were terminated at approximately six inches below the ground surface because of the negative finding as well as the fact that the soils became highly compacted and very hard below that depth.

While the ground visibility was mostly poor, a decision was made in the field that additional clearing and probing was not likely to yield any further or different information based on the following factors:

- The area that would be disturbed during the project is relatively small;
- The ground surface, where naturally visible or after clearing, was consistently sterile-looking and devoid of any archaeological deposits;
- The subsurface probing revealed no indication of any cultural remains;

- No unnatural change in the vegetation was noted anywhere in the project area;
- The project area has evidently been subjected to periodic fluvial erosion during heavy rains and flooding, as evidenced by the presence of sediments that “are most probably of alluvial streambed, fan, terrace or similar origins [and] have been dissected by periodic gully erosion during flooding” to the depth of eight feet below surface (CQuest Consultants, Inc. 2017:2).

DISCUSSION

Models of prehistoric lifeways for the Native people of the San Bernardino Mountains suggest that they moved around to take advantage of desirable resources following the seasons and resource availability (Kroeber 1925; Strong 1929; Bean and Smith 1978; Bean et al. 1981). They had an extensive knowledge of the plants and animals in the region and would travel, as needed, to hunt and gather them. Many of the plants and animals native to the area would have been used by the Native people. Base camps and villages of the aboriginal population, however, were likely to be in sheltered areas near perennial streams or wet meadows. As noted above in the records search results, evidence of habitation and intensive use of areas has been found in Poligue Canyon to the north of the project area.

Additionally, work stations and locations of other activities would be in areas where Native people were able to keep watch over the surrounding area. While Native people were present in the area and would have used any resources available, evidence of such use would be ephemeral and would not provide any new or important insights into their culture. It is unlikely that the project area was the location of intensive use. Therefore, the project area appears to be low in potential to contain significant cultural resources of prehistoric origin.

Use of the area in historic times began with the prospecting and mining in the 1860s. Such activity generally occurred in rocky areas along streams and not in the relatively level areas around the project location. Logging and cattle grazing were more likely to have occurred in the relatively level areas. These activities, however, were ubiquitous in the San Bernardino Mountains and, besides, would have left little physical remnants. Thus, the project area is given a low potential for significant cultural resources dating to the historic period as well.

MANAGEMENT CONSIDERATIONS

The purpose of this study is to identify any cultural resources within the project area and to assist the County of San Bernardino in determining whether such resources meet the official definition of “historical resources,” as provided in the California Public Resources Code, in particular CEQA. According to PRC §5020.1(j), “‘historical resource’ includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.”

More specifically, CEQA guidelines state that the term “historical resources” applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria for the evaluation of historical significance, CEQA guidelines mandate that “generally a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing on the California Register of Historical Resources” (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
 - (2) Is associated with the lives of persons important in our past.
 - (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
 - (4) Has yielded, or may be likely to yield, information important in prehistory or history.
- (PRC §5024.1(c))

As discussed above, no potential “historical resources” were previously identified within the project area, and none was encountered during this study. In addition, no notable man-made features are known to be present within the project area throughout the historic period, and the project location is considered to be relatively low in archaeological sensitivity. Based on these findings, and in light of the criteria listed above, the present report concludes that *no “historical resources” exist within the project area.*

CONCLUSION AND RECOMMENDATIONS

CEQA establishes that “a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (PRC §21084.1). “Substantial adverse change,” according to PRC §5020.1(q), “means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired.”

In summary of the research results presented above, no “historical resources,” as defined by CEQA and associated regulations, were encountered throughout the course of the study. Therefore, CRM TECH presents the following recommendations to the County of San Bernardino:

- No “historical resources” exist within the project area, and thus the project as currently proposed will not cause a substantial adverse change to any known “historical resources.”
- No further cultural resources investigation will be necessary for the project unless construction plans undergo such changes as to include areas not covered by this study.
- If any buried cultural materials are encountered during earth-moving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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CQuest Consultants, Inc.

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GLO (General Land Office, U.S. Department of the Interior)

1858a Plat Map: Township No. 2 North Range No. 1 East, San Bernardino Meridian; surveyed in 1857-1858.

1858b Plat Map: Township No. 2 North Range No. 1 West, San Bernardino Meridian; surveyed in 1857.

1896a Plat Map: Township No. 2 North Range No. 1 East, San Bernardino Meridian; surveyed in 1892-1894.

1896b Plat Map: Township No. 2 North Range No. 1 West, San Bernardino Meridian; surveyed in 1892-1894.

Google Earth

1995-2017 Aerial photographs of the project vicinity, taken in 1995, 2002, 2003, 2005-2007, 2009, and 2013-2017. Available through the Google Earth software.

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NETR Online

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- 1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology, Vol. 26. Reprinted by Malki Museum Press, Banning, California, 1972.

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- 1902 Map: San Geronio, Calif. (30', 1:125,000); surveyed in 1899.
1947 Map: Lucerne Valley, Calif. (15', 1:62,500); aerial photographs taken in 1945
1954 Map: San Geronio Mountain, Calif. (15', 1:62,500); aerial photographs taken in 1952, field-checked in 1954.
1969 Map: San Bernardino, Calif. (1:250,000); 1958 edition revised.
1971 Map: Fawnskin, Calif. (7.5', 1:24,000); aerial photographs taken in 1969, field-checked in 1971.
1996a Map: Big Bear Lake, Calif. (7.5', 1:24,000); 1971 edition photorevised in 1994.
1996b Map: Fawnskin, Calif. (7.5', 1:24,000); 1971 edition photorevised in 1994.

**APPENDIX 1:
PERSONNEL QUALIFICATIONS**

**PRINCIPAL INVESTIGATOR/HISTORIAN
Bai “Tom” Tang, M.A.**

Education

- | | |
|-----------|--|
| 1988-1993 | Graduate Program in Public History/Historic Preservation, UC Riverside. |
| 1987 | M.A., American History, Yale University, New Haven, Connecticut. |
| 1982 | B.A., History, Northwestern University, Xi'an, China. |
| 2000 | “Introduction to Section 106 Review,” presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno. |
| 1994 | “Assessing the Significance of Historic Archaeological Sites,” presented by the Historic Preservation Program, University of Nevada, Reno. |

Professional Experience

- | | |
|-----------|--|
| 2002- | Principal Investigator, CRM TECH, Riverside/Colton, California. |
| 1993-2002 | Project Historian/Architectural Historian, CRM TECH, Riverside, California. |
| 1993-1997 | Project Historian, Greenwood and Associates, Pacific Palisades, California. |
| 1991-1993 | Project Historian, Archaeological Research Unit, UC Riverside. |
| 1990 | Intern Researcher, California State Office of Historic Preservation, Sacramento. |
| 1990-1992 | Teaching Assistant, History of Modern World, UC Riverside. |
| 1988-1993 | Research Assistant, American Social History, UC Riverside. |
| 1985-1988 | Research Assistant, Modern Chinese History, Yale University. |
| 1985-1986 | Teaching Assistant, Modern Chinese History, Yale University. |
| 1982-1985 | Lecturer, History, Xi'an Foreign Languages Institute, Xi'an, China. |

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California's Cultural Resources Inventory System (With Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST

Michael Hogan, Ph.D., RPA*

Education

- 1991 Ph.D., Anthropology, University of California, Riverside.
- 1981 B.S., Anthropology, University of California, Riverside; with honors.
- 1980-1981 Education Abroad Program, Lima, Peru.

- 2002 Section 106—National Historic Preservation Act: Federal Law at the Local Level. UCLA Extension Course #888.
- 2002 “Recognizing Historic Artifacts,” workshop presented by Richard Norwood, Historical Archaeologist.
- 2002 “Wending Your Way through the Regulatory Maze,” symposium presented by the Association of Environmental Professionals.
- 1992 “Southern California Ceramics Workshop,” presented by Jerry Schaefer.
- 1992 “Historic Artifact Workshop,” presented by Anne Duffield-Stoll.

Professional Experience

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
- 1999-2002 Project Archaeologist/Field Director, CRM TECH, Riverside.
- 1996-1998 Project Director and Ethnographer, Statistical Research, Inc., Redlands.
- 1992-1998 Assistant Research Anthropologist, University of California, Riverside
- 1992-1995 Project Director, Archaeological Research Unit, U. C. Riverside.
- 1993-1994 Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C. Riverside, Chapman University, and San Bernardino Valley College.
- 1991-1992 Crew Chief, Archaeological Research Unit, U. C. Riverside.
- 1984-1998 Archaeological Technician, Field Director, and Project Director for various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

Author and co-author of, contributor to, and principal investigator for numerous cultural resources management study reports since 1986.

Memberships

* Register of Professional Archaeologists; Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

PROJECT ARCHAEOLOGIST/REPORT WRITER
Deirdre Encarnación, M.A.

Education

2003 M.A., Anthropology, San Diego State University, California.
2000 B.A., Anthropology, minor in Biology, with honors; San Diego State University,
 California.
1993 A.A., Communications, Nassau Community College, Garden City, N.Y.

2001 Archaeological Field School, San Diego State University.
2000 Archaeological Field School, San Diego State University.

Professional Experience

2004- Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.
2001-2003 Part-time Lecturer, San Diego State University, California.
2001 Research Assistant for Dr. Lynn Gamble, San Diego State University.
2001 Archaeological Collection Catalog, SDSU Foundation.

PROJECT ARCHAEOLOGIST
Nina Gallardo, B.A.

Education

2004 B.A., Anthropology/Law and Society, University of California, Riverside.

Professional Experience

2004- Project Archaeologist, CRM TECH, Riverside/Colton, California.
 • Surveys, excavations, mapping, and records searches.

Honors and Awards

2000-2002 Dean's Honors List, University of California, Riverside.

PROJECT HISTORIAN
Terri Jacquemain, M.A.

Education

- 2004 M.A., Public History and Historic Resource Management, University of California, Riverside.
- M.A. thesis: Managing Cultural Outreach, Public Affairs and Tribal Policies of the Cabazon Band of Mission Indians, Indio, California; internship served as interim Public Information Officer, Cabazon Band of Mission Indians, June-October, 2002.
- 2002 B.S., Anthropology, University of California, Riverside.
- 2001 Archaeological Field School, University of California, Riverside.
- 1991 A.A., Riverside Community College, Norco Campus.

Professional Experience

- 2003- Historian/Architectural Historian/Report Writer, CRM TECH, Riverside/Colton, California.
- Author/co-author of legally defensible cultural resources reports for CEQA and NHPA Section 106;
 - Historic context development, historical/archival research, oral historical interviews, consultation with local communities and historical organizations;
 - Historic building surveys and recordation, research in architectural history; architectural description
- 2002-2003 Teaching Assistant, Religious Studies Department, University of California, Riverside.
- 2002 Interim Public Information Officer, Cabazon Band of Mission Indians.
- 2000 Administrative Assistant, Native American Student Programs, University of California, Riverside.
- 1997-2000 Reporter, *Inland Valley Daily Bulletin*, Ontario, California.
- 1991-1997 Reporter, *The Press-Enterprise*, Riverside, California.

Membership

California Preservation Foundation.